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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,611	01/13/2006	Olivier Colle	71247-0034	5793
22902 7590 08/02/2007 CLARK & BRODY 1090 VERMONT AVENUE, NW SUITE 250 WASHINGTON, DC 20005			EXAMINER SLOMSKI, REBECCA	
			ART UNIT 2877	PAPER NUMBER
			MAIL DATE 08/02/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/532,611

Applicant(s)

COLLE ET AL.

Examiner

Rebecca C. Slomski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/25/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities: The definition of a return cone, Page 10, L 22, 23, and 25 as well as in Figure 6 is unclear as defined by the specification and there is no known definition in the art. Appropriate correction is required.

### *Claim Objections*

2. Claims 2 and 7 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitations in claims 2 and 7 simply restate limitations of claims 1 and 6 respectively.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The definition of a "return cone" in lines 2 and 4 of the claim is unclear and undefined in the specification.

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4. Claim 12 recites the limitation "optical focusing system" in line 2. There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6, 7, 9, 10, 12, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sones  
U.S. Publication 2001/0048524.

5. With respect to claim 6, Sones discloses an adjustable circular dark field illuminator comprising:

- Illumination means able to provide a uniform ring of light converging towards a point of convergence located on the axis of symmetry of the container and having a variable diameter and/or a variable width (P.0021, P.0023)
- Means for creating a convergent uniform ring of light having a given diameter value in relation to the desired mean angle of incidence to illuminate the surface to the neck ring of the container and/or a width of given value in relation to the width of the surface of the neck ring of container (P.0021, P.0023)

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6. With respect to claim 7, Sones discloses all of the limitations as applied to claim 6 above. In addition, Sones discloses:

- An illumination system able to provide a uniform ring of light of variable diameter and/or variable expanse (P.0005, P.0006)
- An optical system for converging the ring of light onto a point of convergence so as to illuminate the surface of the neck ring of the container with the convergent uniform light beam (P.0021)

7. With respect to claim 8, Sones discloses all of the limitations as applied to claims 6 and 7 above. In addition, Sones discloses:

- The illumination system providing a ring of light, consists of a series of elementary annular light sources mounted concentric fashion with respect to one another (P.0009, clockwise and counter clockwise helical pattern)
- In that the means for creating a ring of light are formed by a selective switch on/off command unit for the elementary annular light sources (P.0021)

8. With respect to claim 9, Sones disclose all of the limitations as applied to claim 6 above. In addition, Sones discloses:

- The illumination system providing a ring of light of variable diameter consists of a conical mirror movably mounted with respect to c a planar annular light source emitting onto the conical mirror perpendicular to the axis of said mirror and in

that the means for creating a ring of light of given diameter are formed by means commanding the relative movement of the conical mirror in relation to the planar annular light source along the axis of the mirror over a given height to obtain a ring of light of determined diameter (Figure 2, LEDs 32, mirrored surface 40, P.0018)

9. With respect to claim 10, Sones discloses all of the limitations as applied to claims 6 and 9 above. In addition, Sones discloses:

- An annular light source emitting in the direction of a return cone returning the beam of light along a direction perpendicular to the axis of the conical mirror, the return cone being mounted mobile or non-mobile fashion on the axis of the conical mirror (Figure 2, light source 32, return cone = mirror = 38)

10. With respect to claim 12, Sones discloses all of the limitations as applied to claim 6 above.

In addition, Sones discloses:

- A light diffuser positioned between the optical focusing system and the annular light source (P.0024)

11. With respect to claim 14, Sones discloses all of the limitations as applied to claim 6 above.

In addition, Sones discloses:

- In the illumination system at the centre of its ring of light of variable diameter comprises a sighting zone for a camera (Figure 1)

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 3, 4, 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sones U.S. Publication 2001/0048524 in view of Juvinall et al. U.S. Patent #6,025,909.

12. With respect to claim 1, Sones discloses an adjustable circular dark field illuminator comprising:

- Illuminating the surface of the neck ring of the container with an incident light beam (Figure 1, illuminator 20, container 14, P.0005-0006)
- Collecting the light beams reflected by the neck ring of the container in order to determine the presence of a surface defect and/or material shortage (Figure 1, camera 16, P.0006)
- Characterized in that it consists of obtaining a uniform ring of light converging towards a point of convergence located on the axis of symmetry of the container and having a variable diameter and/or variable width (Figure 4, P.0021)

- Selecting the diameter of the convergent ring of light at a given value in relation to a desired mean angle of incidence to illuminate the surface of the neck ring of the container (P.0005, P.0022)

However, Sones fails to disclose using a line scan camera.

Juvinall et al. discloses a container sealing surface inspecting method comprising:

- Illuminating the surface of the container with an incident light beam (Abstract)
- Collecting via a line scan camera the light beams reflected by the container in order to determine the presence of a surface defect (Abstract)

It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to use the line scan camera of Juvinall et al. in the illuminator of Sones since the elongated line shaped light beam produces sensor information indicative of both existence and height of defects thereby saving time. (Juvinall et al., Abstract)

13. With respect to claim 2, Sones in view of Juvinall et al. discloses all of the limitations as applied to claim 1 above. In addition, Sones discloses:

- Obtaining a uniform ring of light of variable diameter and/or of variable expanse (P.0005, P.0006)
- Ensuring convergences of the ring of light on a point of convergence so as to illuminate the surface of the neck ring of the container with the convergent uniform light beam (P.0021)



14. With respect to claim 3, Sones in view of Juvinall et al. discloses all of the limitations as applied to claims 1 and 2 above. In addition, Sones discloses:

- Obtaining a ring of light via a series of elementary concentric rings of light (P.0009, clockwise and counter clockwise helical pattern)
- Selectively commanding the switching on/off of the elementary rings of light in order to obtain a ring of light of determined diameter and/or of determined width (P.0021)

15. With respect to claim 4, Sones in view of Juvinall et al. discloses all of the limitations as applied to claims 1 and 2 above. In addition, Sones discloses:

- Obtaining a ring of light of variable diameter through the relative movement of a conical mirror in relation to a planar annular light source emitting onto the conical mirror, perpendicular to the axis of said mirror (Figure 2, LEDs 32, mirrored surface 40)
- Ensuring relative movement between the annular light source and the conical mirror along axis of the conical mirror over a given height to obtain a ring of light of determined diameter (P.0018)

16. With respect to claim 11, Sones discloses all of the limitations as applied to claim 6 above.

In addition, Sones discloses:

- The optical convergence system for the ring of light could be lenses for collimating (P.0024)

However, Sones fails is silent to the lens are Fresnel type.

Juvinall et al. discloses container sealing surface area inspection comprising:

- The optical convergence system for the ring of light is a lens of Fresnel type (Col.7, L 37-42)

It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to use a Fresnel lens for the purpose of converging the light onto a focus point since a Fresnel lens would allow input light through the entire surface of the lens to impinge on the bottle for use in inspection in order to maximize usage of energy and precisely control the location of the light beams. (Juvinall et al., Col.8, L 3-14)

17. With respect to claim 15, Sones discloses all of the limitations as applied to claim 14 above.

However, Sones fails to disclose a semi-reflective optical element to transmit an additional flow of light and to ensure the reflected beam to the camera.

Juvinall et al. discloses a container sealing surface area inspection comprising:

- An optical element able to transmit an additional flow of light in the direction of the container to be inspected (Figure 7, lens 116, light source 114)
- A semi-reflective optical element to ensure the transmission to camera of the light beam reflected by the container (Figure 7, beam splitter 120, mirror 124)

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It would have been obvious to one of ordinary skill in the art at the time the invention was conceived that the lens 116 of Junivall et al. could be semi-reflective since all lens have a minute element of reflectivity. Also it would have been obvious to one of ordinary skill in the art at the time the invention was conceived that the optical elements of Juvinall et al. could be one in the same since it has been held that rearranging parts of an invention involves only routing skill in the art and by rearranging the source/surface/detector one could combine optical elements in order to save on the number of parts necessary. Finally, it would have been obvious to one of ordinary skill in the art to use the optical elements of Juvinall et al. in the adjustable dark field illuminator of Sones since they would enable multiple light sources from various angles, enabling greater variation in defects detected and would help ensure all the inspection light was collected by the detector for accurate measurements.

(Juvinall et al., Col.7, L 61- Col.8, L 14)

18. With respect to claim 16, Sones discloses all of the limitations as applied to claim 6 above.

In addition, Sones discloses:

- A processing and analysis unit connected to camera and adapted to analyse the video signal delivered by the camera in order to determine the presence of any surface defect and/or material shortage (Figure 1, image processing system 22, P.0017)

However, Sones fails to disclose a line scan camera.

Juvinall et al. discloses container sealing surface area inspection comprising:

- A line scan camera positioned as to receive the light beam reflected by the surface of the neck ring of the container (Abstract)

It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to use the line scan camera of Juvinall et al. in the illuminator of Sones since the elongated line shaped light beam produces sensor information indicative of both existence and height of defects thereby saving time. (Juvinall et al., Abstract)

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sones U.S. Publication 2001/0048524 in view of Juvinall et al. U.S. Patent #6,025,909 and further in view of Novini U.S. Patent #5,095,204.

19. With respect to claim 5, Sones in view of Juvinall et al. discloses all of the limitations as applied to claim 1 above. However, Sones in view of Juvinall et al. fails to disclose polarizing the incident light beam and polarizing the reflected light beam before it is received by the camera.

Novini discloses a method for inspection of transparent containers comprising:

- Optical components include polarizers (Col.4, L 60-66)

It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to polarize the light beam incident on the surface and polarize the

reflected light beam since it would enhance contrast and/or reduce the effect of unwanted information. (Novini, Col.4, L 60-66)

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sones U.S. Publication 2001/0048524 in view of Novini U.S. Patent #5,095,204.

20. With respect to claim 13, Sones discloses all of the limitations as applied to claim 6 above.

However, Sones fails to disclose polarizing the incident light beam and polarizing the reflected light beam before it is received by the camera.

Novini discloses a method for inspection of transparent containers comprising:

- Optical components include polarizers (Col.4, L 60-66)

It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to polarize the light beam incident on the surface and polarize the reflected light beam since it would enhance contrast and/or reduce the effect of unwanted information. (Novini, Col.4, L 60-66)

#### *Citation*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Vokhim U.S. Patent #5,627,638 discloses a method and apparatus for detecting defects in lenses

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- Dawley et al. U.S. Patent #6,473,169 discloses an integrated leak and vision inspection system
- Cochran et al. U.S. Publication 2006/0076475 discloses a system for associating container defects to a path of manufacturing
- Apter U.S. Patent #5,072,107 discloses an apparatus for examining the mouth of bottles
- Yoshida U.S. Patent #4,775,889 discloses a bottle mouth defect inspection apparatus
- Taniguchi et al. U.S. Patent #4,975,568 discloses a container inspection apparatus shaped to container profile

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca C. Slomski whose telephone number is 571-272-9787. The examiner can normally be reached on Monday through Thursday, 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571-272-2059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

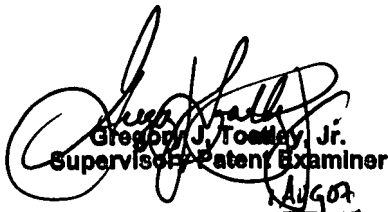
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